



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

1594 West North Temple, Suite 1210

PO Box 145801

Salt Lake City, Utah 84114-5801

801-538-5340

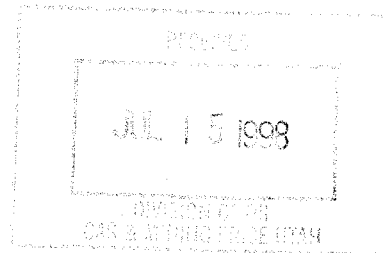
801-359-3940 (Fax)

801-538-7223 (TDD)

Michael O. Leavitt
Governor

Lowell P. Braxton
Division Director

July 1, 1998



David F. T.

Gary Gray, Resident Agent
Genwal Resources, inc.
P.O. Box 1420
195 North 100 West
Huntington, Utah 84528

Re: Deficiencies to be Corrected for First Quarter Water Monitoring Data, Crandall Canyon Mine, Genwal Resources, Inc., ACT/015/032, Folder #2, Emery County, Utah.

Dear Mr. Gray:

Enclosed are problems that were identified with the first quarter water monitoring data submitted May 1, 1998. They are:

1. Incomplete data: No flow given for site: Lower Flume, sampled March 11, 1998. Gauge height reading provided with no flow calculation, and
2. Data submitted for sites not listed in the approved plan should be identified in the approved plan. Monitoring sites for Crandall Canyon Mine are found in the text whereas most mine plans list all of the monitoring sites in tables. It is strongly suggested that all of the monitoring sites for Crandall Canyon Mine be listed in a table (tables) for easier identification.
3. Only one of the three UPDES grab samples (sampled February 24, 1998) included a flow rate. Please submit the flow rate for the other two samples (January 30, 1998 and March 11, 1998).

Please correct these deficiencies and return to the Division by August 3, 1998. Please call me or Ken Wyatt if you have any questions. Thank you.

Sincerely,

Pamela Grubaugh-Littig
Pamela Grubaugh-Littig
Permit Supervisor

Enclosure

cc: Nina Braxton (w/o enclosure)
Ken Wyatt (w/o enclosure)

E.I.S. Hydrology
Field Measurements Form

Date 2/11/98

Station # Lower Flum

Company General

Time 9:48

Flow/Depth 1"

pH 8

Specific Conductivity 410

Water Temperature 10

Air Temperature 42 5.0°V

Dissolved Oxygen 8

Type: Spring___ Stream ☒ Well___ Discharge___ NPDES___

Collection Point Below Prop. Flum Grand Creek

Appearance of Water: Clear ☒ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes ☒ No___

Pump Reading___

Comments___

Field Monitor John D. Connor

When Sample or Measurements Not Taken:

Reason: _____

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

FLOW ?

1"



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FAX: (435) 653-2436

April 7, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

ID: LOWER FLUM

Kind of sample Water
reported to us

Sample taken at Genwal

Sample taken by Genwal

Date sampled March 11, 1998

Date received March 11, 1998

Rec'd 1050 hr.
Sampled 0948 hr.
Field Measurements
pH 8.0
DO 1.6
Flow 1"
Conductivity 410
Temperature 10°C
Dissolved metals filtered at lab.
TSS analyzed at Timpview Analytical.

Analysis report no. 59-18338

Parameter	Result	MRL	Units	Method	Analyzed		
					Date/Time/Analyst		
Acidity	<10	10	mg/l	as CaCO ₃ D1067-92	03-13-1998 0830	SC	
Alkalinity, Bicarbonate	338	5	mg/l	as HCO ₃ SM2320-B	03-13-1998 1230	SC	
Alkalinity, Carbonate	<5	5	mg/l	as CO ₃ SM2320-B	03-13-1998 1230	SC	
Alkalinity, Total	277	5	mg/l	as CaCO ₃ EPA 310.1	03-13-1998 1230	SC	
Anions	9.3	----	meq/l	-----	04-01-1998 1600	RJ	
Calcium, Total	78	1	mg/l	EPA 215.1	03-31-1998 1300	MK	
Cations	9.1	----	meq/l	-----	04-01-1998 1600	RJ	
Chloride	61	1	mg/l	SM4500-Cl-B	03-11-1998 0900	SC	
Hardness, Total	376	----	mg/l	as CaCO ₃ SM2340-B	04-01-1998 1600	RJ	
Iron, Total	<0.1	0.1	mg/l	EPA 236.1	03-31-1998 0945	MK	
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	03-19-1998 0845	MK	
Magnesium, Total	44	1	mg/l	EPA 242.1	03-31-1998 1330	MK	
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	03-31-1998 1030	MK	
Oil & Grease	<2	2	mg/l	SM5520-B	03-20-1998 0630	MK	
Potassium, Total	2	1	mg/l	EPA 258.1	03-31-1998 1100	MK	
Sodium, Total	35	1	mg/l	EPA 273.1	03-31-1998 1200	MK	
Solids, Settleable	<0.5	0.5	ml/l	EPA 160.5	03-12-1998 1015	SC	
Solids, Total Dissolved	487	10	mg/l	EPA 160.1	03-16-1998 1200	RJ	
Solids, Total Suspended	<4	4	mg/l	EPA 160.2	03-17-1998 1059		
Sulfate	98	50	mg/l	EPA 375.4	03-26-1998 0900	SC	
Cation/Anion Balance	-1.2	----	%		04-01-1998 1600	RJ	

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout

Huntington Laboratory *RO*



OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES

WATER MONITORING REPORT 1998

PROPERTY: GENWAL
STATION: LOWER FLUME
LOCATION: FLUME
TYPE: STREAM
FREQUENCY: QUARTERLY

DATE SAMPLED

Field Measurements 03/11/98

Flow [GPM] 1.00

PH 8.00

Sp. Cond. [ohms] 410.00

Temp. [C] 42.00

Diss. O [ppm] 8.00

Lab. Measurements [mg/l]

Al as HC03 338.00

Al as CO3 <5

Al Total 277.00

Anions meg/l 9.30

Calcium, Diss. 78.00

Cations meg/l 9.10

Chloride 61.00

Hard. Total 376.00

Iron <0.1

Iron Diss. <0.1

Magnesium, Diss. 44.00

Manganese, Diss. <0.1

Potassium, Diss. 2.00

Sodium, Diss. 35.00

Solids sett. <0.5

Sol. Tot. Diss. 487.00

Sol. Tot. Sus. <4

Sulfate 98.00

Oil & Grease <2

Cat/An Balance -1.20

a quarterly basis, and a summary report will be submitted yearly with the Annual Report for the mine.

INCORPORATED
EFFECTIVE:

JUL 30 1997

17B

All test and measurement instruments are operated, maintained and calibrated in accordance with the manufacturers instructions. The results of all field measurements are recorded and initialed by the sampler. When laboratory measurements are required, a specific set of sample bottles are pre-ordered from the laboratory. Bottles received from the laboratory are clean, pre-acidified and color-coded. Once the sample bottles are filled, they are individually labeled with water-proof, smudge-proof labels, placed in ice chests with ice packs and returned to the laboratory as soon as possible to insure proper holding times are met.

7.31.21 Groundwater Monitoring Plan

As noted in Section 7.24.1 only four springs were spring survey within the area of potential subsidence with minute (SP-16, SP-17, SP-30, SP-36). By the time of the fall area of potential subsidence except SP-30 and SP-36 had dried during 1986 and in subsequent years to the present. The flow in 1985 is most likely attributable to higher than normal precipitation occurs as diffuse seepage from the Blackhawk Formation about a diversion pipe to avoid problems at the portal face. Flow at SP-30 issues from a sandstone-shale contact within the Blackhawk Formation and showed evidence of use by elk and deer. All major springs (flows of at least five gallons per minute) found during the June 1985 survey were located outside of the area of potential subsidence at that time.

POSSIBLY THE
ONLY REFERENCE
TO UNDERGROUND
WATER SITES IN
THE PERMIT

seep and
gallons per
with the
und to be
measured
i. SP-30
lected in

The Federal Lease #UTU-68082 and State Leases have since been added to the permit area, and the area of potential subsidence has therefore expanded. Additional spring and seep surveys were conducted in 1987, 1989, through 1993. The proposed groundwater monitoring program described below is based on the results of those surveys and is designed to evaluate impacts from the entire permit area, including the State Leases and L.B.A. Area #9, Lease #UTU-68082.

Previous to August 1994, groundwater monitoring for the Crandall Canyon Mine area included collection of water quality and quantity data from eleven springs as well as points of significant inflow to the underground workings. Based on the permit modification to include LBA #9, Genwal conducts the monitoring of fourteen seeps and springs:

SP-30 and SP-36 are monitored to determine potential impacts in the immediate vicinity of the mine. SP-58 is monitored as an indicator of long-term changes in groundwater issuing from the Blackhawk Formation in a area that will not be affected by mining operations. The magnitude of these changes will be useful when interpreting changes at SP-30 and SP-36.

SP2-24, SP2-9, SP-47A, and SP1-3 are monitored since a water right has been filed on the springs by the U.S. Forest Service. Springs SP1-19 and SP1-22 are monitored as indicators of the water supply in the upper reaches of Blind Canyon and the North Fork of Crandall Canyon.

SP1-33, SP1-47, and SP2-1 are monitored as an indicator of changes in groundwater emanating near the western border of East Mountain, contiguous to Joe's Valley Fault.



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PLEASE ADD

Site unknown

January 15, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

HUNTINGTON, UT 84528
TEL: (801) 653-2311
FAX: (801) 653-2436

Kind of sample Water
reported to us

Sample taken at Genwal

Sample taken by Genwal

Date sampled December 30, 1997

Date received December 30, 1997

Sample identification by
GENWAL COAL CO.

ID: MW-6

Rec'd 1640 hr.
Sampled 1155 hr.

Field Measurements

pH 10.1
Flow 0.8 gpm
Conductivity 635
Temperature 11.9°C

NOTE: DISSOLVED IRON FILTERED AT LAB

NOTE: DUE TO HIGH HYDROXIDE, ALKALINTY
CHARGE BALANCE >10

Analysis report no. 59-18183

Parameter	Result	MRL	Units	Method	Analyzed	
					Date/Time/Analyst	
Acidity	<10	10	mg/l	as CaCO ₃ D1067-92	01-13-1998 0900	SC
Alkalinity, Bicarbonate	<5	5	mg/l	as HCO ₃ SM2320-B	01-13-1998 1300	SC
Alkalinity, Carbonate	24	5	mg/l	as CO ₃ SM2320-B	01-13-1998 1300	SC
Alkalinity, Total	20	5	mg/l	as CaCO ₃ EPA 310.1	- -	
Anions	1.2	----	meq/l	-----	01-14-1998 1500	RJ
Calcium, Total	69	1	mg/l	EPA 215.1	01-08-1998 1015	MK
Cations	6.0	----	meq/l	-----	01-14-1998 1500	RJ
Chloride	4	1	mg/l	SM4500-Cl-B	01-02-1998 0800	JC
Hardness, Total	197	----	mg/l	as CaCO ₃ SM2340-B	01-14-1998 1500	RJ
Iron, Total	2.8	.1	mg/l	EPA 236.1	01-08-1998 0745	MK
Iron, Dissolved	<0.1	.1	mg/l	EPA 236.1	01-08-1998 0745	MK
Magnesium, Total	6	1	mg/l	EPA 242.1	01-08-1998 1030	MK
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	01-08-1998 0830	MK
Potassium, Total	7	1	mg/l	EPA 258.1	01-08-1998 0845	MK
Sodium, Total	48	1	mg/l	EPA 273.1	01-08-1998 0900	MK
Solids, Total Dissolved	1030	10	mg/l	EPA 160.1	01-06-1998 0700	JC
Solids, Total Suspended	81	5	mg/l	EPA 160.2	01-06-1998 0700	JC
Sulfate	15	10	mg/l	EPA 375.4	01-05-1998 0700	JC
Cation/Anion Balance	66.2	----	%		01-14-1998 1500	RJ

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

*Larry Stout*Huntington Laboratory *RG*

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FAX: (435) 653-2436

April 10, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

MW-6

Kind of sample Water
reported to us

Sample taken at Genwal

Sample taken by Genwal

Date sampled March 31, 1998

Date received April 1, 1998

Rec'd 1000 hr.
Sampled 1735 hr.
Field Measurements
pH 11.8
Flow 0.1 level
Conductivity 488
Temperature 13.5°C
Dissolved metals and Alkalinity
filtered at lab.
Charge Balance calculated with
Hydroxide-Alkalinity.

Analysis report no. 59-18390

Parameter	Result	MRL	Units	Method	Analyzed		
					Date/Time/Analyst		
Alkalinity, Bicarbonate	<5	5	mg/l as HCO ₃	SM2320-B	04-06-1998 1245	SC	
Alkalinity, Carbonate	56	5	mg/l as CO ₃	SM2320-B	04-06-1998 1245	SC	
Alkalinity, Total	1098	5	mg/l as CaCO ₃	EPA 310.1	04-06-1998 1245	SC	
Anions	22.7	----	meq/l	-----	04-09-1998 1130	RJ	
Calcium, Total	450	1	mg/l	EPA 215.1	04-08-1998 0830	MK	
Cations	24.2	----	meq/l	-----	04-09-1998 1130	RJ	
Chloride	13	1	mg/l	SM4500-Cl-B	04-01-1998 1305	SC	
Hardness, Total	1132	----	mg/l as CaCO ₃	SM2340-B	04-09-1998 1130	RJ	
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	04-07-1998 1200	MK	
Iron, Total	0.6	0.1	mg/l	EPA 236.1	04-07-1998 1130	MK	
Magnesium, Total	2	1	mg/l	EPA 242.1	04-08-1998 0930	MK	
Manganese, Total	1.0	0.1	mg/l	EPA 243.1	04-07-1998 1215	MK	
Potassium, Total	9	1	mg/l	EPA 258.1	04-07-1998 1245	MK	
Sodium, Total	31	1	mg/l	EPA 273.1	04-08-1998 0615	MK	
Solids, Total Dissolved	1009	10	mg/l	EPA 160.1	04-06-1998 1200	RJ	
Sulfate	20	10	mg/l	EPA 375.4	04-02-1998 0815	SC	
Cation/Anion Balance	3.2	----	%		04-09-1998 1130	RJ	

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout

Huntington Laboratory *RD*

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FAX: (801) 653-2436

January 15, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

ID: MW-7

Kind of sample Water
reported to us

Rec'd 1640 hr.
Sampled 1405 hr.

Sample taken at Genwal

FIELD MEASUREMENTS

Sample taken by Genwal

pH 6.75
Flow 0.3 gpm
Conductivity 502
Temperature 10.2

Date sampled December 30, 1997

Date received December 30, 1997

NOTE: DISSOLVED IRON FILTERED AT LAB

Analysis report no. 59-18190

Parameter	Result	MRL	Units	Method	Analyzed Date/Time/Analyst
Acidity	<10	10	mg/l	as CaCO ₃ D1067-92	01-13-1998 0900 SC
Alkalinity, Bicarbonate	316	5	mg/l	as HCO ₃ SM2320-B	01-13-1998 1300 SC
Alkalinity, Carbonate	<5	5	mg/l	as CO ₃ SM2320-B	01-13-1998 1300 SC
Alkalinity, Total	259	5	mg/l	as CaCO ₃ EPA 310.1	- -
Anions	5.9	----	meq/l	-----	01-14-1998 1500 RJ
Calcium, Total	59	1	mg/l	EPA 215.1	01-08-1998 1015 MK
Cations	5.8	----	meq/l	-----	01-14-1998 1500 RJ
Chloride	4	1	mg/l	SM4500-Cl-B	01-02-1998 0800 JC
Hardness, Total	297	----	mg/l	as CaCO ₃ SM2340-B	01-14-1998 1500 RJ
Iron, Total	0.2	.1	mg/l	EPA 236.1	01-08-1998 0745 MK
Iron, Dissolved	<0.1	.1	mg/l	EPA 236.1	01-08-1998 0745 MK
Magnesium, Total	32	1	mg/l	EPA 242.1	01-08-1998 1030 MK
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	01-08-1998 0830 MK
Potassium, Total	2	1	mg/l	EPA 258.1	01-08-1998 0845 MK
Sodium, Total	5	1	mg/l	EPA 273.1	01-08-1998 0900 MK
Solids, Total Dissolved	320	10	mg/l	EPA 160.1	01-06-1998 0700 JC
Solids, Total Suspended	<5	5	mg/l	EPA 160.2	01-06-1998 0700 JC
Sulfate	31	10	mg/l	EPA 375.4	01-05-1998 0700 JC
Cation/Anion Balance	-0.8	----	%		01-14-1998 1500 RJ

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout

Huntington Laboratory *LD*



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FAX: (801) 653-2436

March 19, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

ID: MW-7

Kind of sample Water
reported to us

Rec'd 2130 hr.
Sampled 1850 hr.

Sample taken at Genwal

Field Measurements

Sample taken by Genwal

pH 7.4
Flow .2 gpm
Conductivity 520
Temperature 20.1°C

Date sampled February 11, 1998

Date received February 11, 1998

Dissolved metals filtered at lab.

Analysis report no. 59-18275

Parameter	Result	MRL	Units	Method	Analyzed		
					Date/Time/Analyst		
Acidity	<10	10	mg/l	as CaCO ₃ D1067-92	02-16-1998 0930	CS	
Alkalinity, Bicarbonate	323	5	mg/l	as HCO ₃ SM2320-B	02-16-1998 1030	SC	
Alkalinity, Carbonate	<5	5	mg/l	as CO ₃ SM2320-B	02-16-1998 1030	SC	
Alkalinity, Total	265	5	mg/l	as CaCO ₃ EPA 310.1	02-16-1998 1030	SC	
Anions	6.1	----	meq/l	-----	03-12-1998 0915	RJ	
Calcium, Dissolved	58	1	mg/l	EPA 215.1	03-04-1998 1245	MK	
Cations	5.6	----	meq/l	-----	03-12-1998 0915	RJ	
Chloride	5	1	mg/l	SM4500-Cl-B	02-17-1998 0800	SC	
Hardness, Total	272	----	mg/l	as CaCO ₃ SM2340-B	03-12-1998 0915	RJ	
Iron, Total	0.2	0.1	mg/l	EPA 236.1	03-04-1998 0930	MK	
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	03-04-1998 0930	MK	
Magnesium, Dissolved	31	1	mg/l	EPA 242.1	03-04-1998 1300	MK	
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	03-04-1998 1000	MK	
Manganese, Dissolved	<0.1	0.1	mg/l	EPA 243.1	03-04-1998 1000	MK	
Potassium, Dissolved	2	1	mg/l	EPA 258.1	03-04-1998 1030	MK	
Sodium, Dissolved	3	1	mg/l	EPA 273.1	03-04-1998 1145	MK	
Solids, Total Dissolved	300	10	mg/l	EPA 160.1	02-16-1998 0830	RJ	
Sulfate	31	10	mg/l	EPA 375.4	02-18-1998 1200	SC	
Cation/Anion Balance	-3.9	----	%		03-12-1998 0915	RJ	

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout
Huntington Laboratory *RS*

MEMBER
ACIL



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TEL: (801) 653-2311
FAX: (801) 653-2436

January 15, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

ID: MW-8

Rec'd 1640 hr.
Sampled 1220 hr.

Field Measurements
pH 6.5
Flow +2.1 gpm
Conductivity 504
Temperature 12.7°C

Kind of sample Water
reported to us

Sample taken at Genwal

Sample taken by Genwal

Date sampled December 30, 1997

Date received December 30, 1997

NOTE: DISSOLVED IRON FILTERED AT LAB

Analysis report no. 59-18184

Parameter	Result	MRL	Units	Method	Analyzed		
					Date/Time	Analyst	
Acidity	<10	10	mg/l	as CaCO ₃ D1067-92	01-13-1998 0900	SC	
Alkalinity, Bicarbonate	306	5	mg/l	as HCO ₃ SM2320-B	01-13-1998 1300	SC	
Alkalinity, Carbonate	<5	5	mg/l	as CO ₃ SM2320-B	01-13-1998 1300	SC	
Alkalinity, Total	251	5	mg/l	as CaCO ₃ EPA 310.1	- -		
Anions	5.9	----	meq/l	-----	01-14-1998 1500	RJ	
Calcium, Total	53	1	mg/l	EPA 215.1	01-08-1998 1015	MK	
Cations	6.2	----	meq/l	-----	01-14-1998 1500	RJ	
Chloride	2	1	mg/l	SM4500-Cl-B	01-02-1998 0800	JC	
Hardness, Total	276	----	mg/l	as CaCO ₃ SM2340-B	01-14-1998 1500	RJ	
Iron, Total	5.2	0.2	mg/l	EPA 236.1	01-08-1998 0745	MK	
Iron, Dissolved	<0.1	.1	mg/l	EPA 236.1	01-08-1998 0745	MK	
Magnesium, Total	35	1	mg/l	EPA 242.1	01-08-1998 1030	MK	
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	01-08-1998 0830	MK	
Potassium, Total	4	1	mg/l	EPA 258.1	01-08-1998 0845	MK	
Sodium, Total	13	1	mg/l	EPA 273.1	01-08-1998 0900	MK	
Solids, Total Dissolved	260	10	mg/l	EPA 160.1	01-06-1998 0700	JC	
Solids, Total Suspended	65	5	mg/l	EPA 160.2	01-06-1998 0700	JC	
Sulfate	39	10	mg/l	EPA 375.4	01-05-1998 0700	JC	
Cation/Anion Balance	2.6	----	%		01-14-1998 1500	RJ	

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout
Huntington Laboratory



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FAX: (435) 653-2436

April 10, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

Kind of sample Water
reported to us

Sample taken at Genwal

Sample taken by Genwal

Date sampled March 31, 1998

Date received April 1, 1998

MW-8

Rec'd 1000 hr.
Sampled 1750 hr.

Field Measurements

pH 7.7

Flow 2.2 Above Collar

Conductivity 51.9

Temperature 13.4°C

Dissolved metals and Chloride filtered
at lab.

Analysis report no. 59-18391

Parameter	Result	MRL	Units	Method	Analyzed		
					Date/Time/Analyst		
Alkalinity, Bicarbonate	327	5	mg/l as HCO ₃	SM2320-B	04-06-1998 0930	SC	
Alkalinity, Carbonate	<5	5	mg/l as CO ₃	SM2320-B	04-06-1998 0930	SC	
Alkalinity, Total	268	5	mg/l as CaCO ₃	EPA 310.1	04-06-1998 0930	SC	
Anions	6.2	----	meq/l	-----	04-08-1998 1500	RJ	
Calcium, Total	57	1	mg/l	EPA 215.1	04-08-1998 0830	MK	
Cations	6.3	----	meq/l	-----	04-08-1998 1500	RJ	
Chloride	5	1	mg/l	SM4500-Cl-B	04-07-1998 1500	SC	
Hardness, Total	282	----	mg/l as CaCO ₃	SM2340-B	04-08-1998 1500	RJ	
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	04-07-1998 1200	MK	
Iron, Total	2.1	0.1	mg/l	EPA 236.1	04-07-1998 1130	MK	
Magnesium, Total	34	1	mg/l	EPA 242.1	04-08-1998 0930	MK	
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	04-07-1998 1215	MK	
Potassium, Total	5	1	mg/l	EPA 258.1	04-07-1998 1245	MK	
Sodium, Total	12	1	mg/l	EPA 273.1	04-08-1998 0615	MK	
Solids, Total Dissolved	284	10	mg/l	EPA 160.1	04-06-1998 1200	RJ	
Sulfate	33	10	mg/l	EPA 375.4	04-02-1998 0815	SC	
Cation/Anion Balance	0.8	----	%		04-08-1998 1500	RJ	

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout
Huntington Laboratory *RS*

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January 15, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

Kind of sample Water
reported to us

ID: 4th WEST ROOF

Rec'd 1640 hr.
Sampled 1320 hr.

Sample taken at Genwal

Field Measurements
pH 6.8
Flow 25 gpm
Conductivity 515
Temperature 7.1°C

Sample taken by Genwal

Date sampled December 30, 1997

Date received December 30, 1997

NOTE: DISSOLVED IRON FILTERED AT LAB

Analysis report no. 59-18185

Parameter	Result	MRL	Units	Method	Analized Date/Time/Analyst
Acidity	<10	10	mg/l as CaCO ₃	D1067-92	01-13-1998 0900 SC
Alkalinity, Bicarbonate	324	5	mg/l as HCO ₃	SM2320-B	01-13-1998 1300 SC
Alkalinity, Carbonate	<5	5	mg/l as CO ₃	SM2320-B	01-13-1998 1300 SC
Alkalinity, Total	265	5	mg/l as CaCO ₃	EPA 310.1	- -
Anions	6.1	----	meq/l	-----	01-14-1998 1500 RJ
Calcium, Total	67	1	mg/l	EPA 215.1	01-08-1998 1015 MK
Cations	6.1	----	meq/l	-----	01-14-1998 1500 RJ
Chloride	3	1	mg/l	SM4500-Cl-B	01-02-1998 0800 JC
Hardness, Total	299	----	mg/l as CaCO ₃	SM2340-B	01-14-1998 1500 RJ
Iron, Total	<0.1	.1	mg/l	EPA 236.1	01-08-1998 0745 MK
Iron, Dissolved	<0.1	.1	mg/l	EPA 236.1	01-08-1998 0745 MK
Magnesium, Total	32	1	mg/l	EPA 242.1	01-08-1998 1030 MK
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	01-08-1998 0830 MK
Potassium, Total	1	1	mg/l	EPA 258.1	01-08-1998 0845 MK
Sodium, Total	3	1	mg/l	EPA 273.1	01-08-1998 0900 MK
Solids, Total Dissolved	310	10	mg/l	EPA 160.1	01-06-1998 0700 JC
Solids, Total Suspended	<5	5	mg/l	EPA 160.2	01-06-1998 0700 JC
Sulfate	34	10	mg/l	EPA 375.4	01-05-1998 0700 JC
Cation/Anion Balance	0.2	----	%		01-14-1998 1500 RJ

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout

Huntington Laboratory *RS*



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FAX: (801) 653-2436

December 3, 1997

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

Kind of sample Water
reported to us

Sample taken at Genwal

Sample taken by Genwal

Date sampled October 20, 1997

Date received October 21, 1997

ID: 4TH W. ROOF WATER

Rec'd 0715 hr.

Sampled 1440 hr.

Field Measurements

pH 7.4

Flow 20 GPM

Conductivity 520

Temperature 8.5°C

NOTE: Dissolved Iron filtered at lab

Analysis report no. 59-17970

Parameter	Result	MRL	Units	Method	Analyzed		
					Date/Time/Analyst		
Acidity	17	10	mg/l as CaCO ₃	D1067-92	10-23-1997 1930	RJ	
Alkalinity, Bicarbonate	336	5	mg/l as HCO ₃	SM2320-B	10-23-1997 2240	RJ	
Alkalinity, Carbonate	<5	5	mg/l as CO ₃	SM2320-B	10-23-1997 2240	RJ	
Alkalinity, Total	276	5	mg/l as CaCO ₃	EPA 310.1	10-23-1997 2240	RJ	
Anions	6.0	----	meq/l	-----	11-20-1997 0945	RJ	
Calcium, Total	67	1	mg/l	EPA 215.1	11-17-1997 2300	MK	
Cations	6.0	----	meq/l	-----	11-20-1997 0945	RJ	
Chloride	5	1	mg/l	SM4500-Cl-B	10-30-1997 1400	SC	
Hardness, Total	291	----	mg/l as CaCO ₃	SM2340-B	11-20-1997 0945	RJ	
Iron, Total	0.5	0.1	mg/l	EPA 236.1	11-17-1997 2000	MK	
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	11-17-1997 2000	MK	
Magnesium, Total	30	1	mg/l	EPA 242.1	11-18-1997 1200	MK	
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	11-17-1997 2100	MK	
Potassium, Total	1	1	mg/l	EPA 258.1	11-17-1997 2130	MK	
Sodium, Total	4	1	mg/l	EPA 273.1	11-17-1997 2200	MK	
Solids, Total Dissolved	320	10	mg/l	EPA 160.1	10-27-1997 0700	JC	
Solids, Total Suspended	<5	5	mg/l	EPA 160.2	10-27-1997 0700	JC	
Sulfate	17	5	mg/l	EPA 375.4	10-28-1997 1400	SC	
Cation/Anion Balance	0.1	----	%		11-20-1997 0945	RJ	

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

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March 19, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

ID: 3RD WEST
#1 X/C 30-31 FLOOR

Kind of sample Water
reported to us

Rec'd 2130 hr.
Sampled 1820 hr.

Sample taken at Genwal

Field Measurements
pH 7.3
Flow 2 gpm
Conductivity 608
Temperature 9.0°C

Sample taken by Genwal

Date sampled February 11, 1998

Date received February 11, 1998

Dissolved metals filtered at lab.

Analysis report no. 59-18274

Parameter	Result	MRL	Units	Method	Analyzed		
					Date/Time/Analyst		
Acidity	18	10	mg/l as CaCO ₃	D1067-92	02-16-1998 0930	CS	
Alkalinity, Bicarbonate	344	5	mg/l as HCO ₃	SM2320-B	02-16-1998 1030	SC	
Alkalinity, Carbonate	<5	5	mg/l as CO ₃	SM2320-B	02-16-1998 1030	SC	
Alkalinity, Total	282	5	mg/l as CaCO ₃	EPA 310.1	02-16-1998 1030	SC	
Anions	7.0	----	meq/l	-----	03-12-1998 0915	RJ	
Calcium, Dissolved	71	1	mg/l	EPA 215.1	03-04-1998 1245	MK	
Cations	6.7	----	meq/l	-----	03-12-1998 0915	RJ	
Chloride	7	1	mg/l	SM4500-Cl-B	02-17-1998 0800	SC	
Hardness, Total	321	----	mg/l as CaCO ₃	SM2340-B	03-12-1998 0915	RJ	
Iron, Total	0.2	0.1	mg/l	EPA 236.1	03-04-1998 0930	MK	
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	03-04-1998 0930	MK	
Magnesium, Dissolved	35	1	mg/l	EPA 242.1	03-04-1998 1300	MK	
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	03-04-1998 1000	MK	
Manganese, Dissolved	<0.1	0.1	mg/l	EPA 243.1	03-04-1998 1000	MK	
Potassium, Dissolved	2	1	mg/l	EPA 258.1	03-04-1998 1030	MK	
Sodium, Dissolved	5	1	mg/l	EPA 273.1	03-04-1998 1145	MK	
Solids, Total Dissolved	340	10	mg/l	EPA 160.1	02-16-1998 0830	RJ	
Sulfate	55	10	mg/l	EPA 375.4	02-18-1998 1200	SC	
Cation/Anion Balance	-2.1	----	%		03-12-1998 0915	RJ	

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout

Huntington Laboratory *RP*





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March 19, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

ID: 3RD WEST ROOFDRIP
33 X1C

Kind of sample Water
reported to us

Rec'd 2130 hr.
Sampled 1440 hr.

Sample taken at Genwal

Sample taken by Genwal

Field Measurements
pH 7.45
Flow 1.5 gpm
Conductivity 571
Temperature 8.1°C

Date sampled February 11, 1998

Date received February 11, 1998

Dissolved metals filtered at lab.

Analysis report no. 59-18271

Parameter	Result	MRL	Units	Method	Analyzed	
					Date/Time	Analyst
Acidity	11	10	mg/l as CaCO ₃	D1067-92	02-16-1998 0930	CS
Alkalinity, Bicarbonate	340	5	mg/l as HCO ₃	SM2320-B	02-16-1998 1030	SC
Alkalinity, Carbonate	<5	5	mg/l as CO ₃	SM2320-B	02-16-1998 1030	SC
Alkalinity, Total	279	5	mg/l as CaCO ₃	EPA 310.1	02-16-1998 1030	SC
Anions	6.6	----	meq/l	-----	03-12-1998 0915	RJ
Calcium, Dissolved	71	1	mg/l	EPA 215.1	03-04-1998 1245	MK
Cations	6.5	----	meq/l	-----	03-12-1998 0915	RJ
Chloride	4	1	mg/l	SM4500-Cl-B	02-17-1998 0800	SC
Hardness, Total	313	----	mg/l as CaCO ₃	SM2340-B	03-12-1998 0915	RJ
Iron, Total	<0.1	0.1	mg/l	EPA 236.1	03-04-1998 0930	MK
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	03-04-1998 0930	MK
Magnesium, Dissolved	33	1	mg/l	EPA 242.1	03-04-1998 1300	MK
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	03-04-1998 1000	MK
Manganese, Dissolved	<0.1	0.1	mg/l	EPA 243.1	03-04-1998 1000	MK
Potassium, Dissolved	1	1	mg/l	EPA 258.1	03-04-1998 1030	MK
Sodium, Dissolved	4	1	mg/l	EPA 273.1	03-04-1998 1145	MK
Solids, Total Dissolved	340	10	mg/l	EPA 160.1	02-16-1998 0830	RJ
Sulfate	46	10	mg/l	EPA 375.4	02-18-1998 1200	SC
Cation/Anion Balance	-1.4	----	%		03-12-1998 0915	RJ

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Scott

Huntington Laboratory

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March 19, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

ID: 3RD WEST
X/C 31 FLOOR

Rec'd 2130 hr.
Sampled 1500 hr.

Field Measurements
pH 7.44
Flow 24 gpm
Conductivity 534
Temperature 8.9°C

Dissolved metals filtered at lab.

Kind of sample Water
reported to us

Sample taken at Genwal

Sample taken by Genwal

Date sampled February 11, 1998

Date received February 11, 1998

Analysis report no. 59-18272

Parameter	Result	MRL	Units	Method	Analyzed		
					Date/Time/Analyst		
Acidity	14	10	mg/l	as CaCO ₃ D1067-92	02-16-1998 0930	CS	
Alkalinity, Bicarbonate	323	5	mg/l	as HCO ₃ SM2320-B	02-16-1998 1030	SC	
Alkalinity, Carbonate	<5	5	mg/l	as CO ₃ SM2320-B	02-16-1998 1030	SC	
Alkalinity, Total	265	5	mg/l	as CaCO ₃ EPA 310.1	02-16-1998 1030	SC	
Anions	6.1	----	meq/l	-----	03-12-1998 0915	RJ	
Calcium, Dissolved	65	1	mg/l	EPA 215.1	03-04-1998 1245	MK	
Cations	5.8	----	meq/l	-----	03-12-1998 0915	RJ	
Chloride	5	1	mg/l	SM4500-Cl-B	02-17-1998 0800	SC	
Hardness, Total	282	----	mg/l	as CaCO ₃ SM2340-B	03-12-1998 0915	RJ	
Iron, Total	0.1	0.1	mg/l	EPA 236.1	03-04-1998 0930	MK	
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	03-04-1998 0930	MK	
Magnesium, Dissolved	29	1	mg/l	EPA 242.1	03-04-1998 1300	MK	
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	03-04-1998 1000	MK	
Manganese, Dissolved	<0.1	0.1	mg/l	EPA 243.1	03-04-1998 1000	MK	
Potassium, Dissolved	1	1	mg/l	EPA 258.1	03-04-1998 1030	MK	
Sodium, Dissolved	3	1	mg/l	EPA 273.1	03-04-1998 1145	MK	
Solids, Total Dissolved	310	10	mg/l	EPA 160.1	02-16-1998 0830	RJ	
Sulfate	33	10	mg/l	EPA 375.4	02-18-1998 1200	SC	
Cation/Anion Balance	-2.8	----	%		03-12-1998 0915	RJ	

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout
Huntington Laboratory *RS*



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February 5, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

Kind of sample Water
reported to us

ID: 3RD WEST X/C 33 ROOF DRIP

Sample taken at Genwal

Rec'd 1130 hr.
Sampled 0515 hr.

Sample taken by Genwal

Field Measurements
pH 7.6
Flow 5 gpm
Conductivity 531
Temperature 8.3°C

Date sampled January 16, 1998

Date received January 16, 1998

NOTE: DISSOLVED METALS FILTERED AT LAB

Analysis report no. 59-18222

Parameter	Result	MRL	Units	Method	Analized Date/Time/Analyst
Acidity	14	10	mg/l	as CaCO ₃ D1067-92	01-28-1998 1230 SC
Alkalinity, Bicarbonate	335	5	mg/l	as HCO ₃ SM2320-B	01-19-1998 1200 SC
Alkalinity, Carbonate	<5	5	mg/l	as CO ₃ SM2320-B	01-19-1998 1200 SC
Alkalinity, Total	275	5	mg/l	as CaCO ₃ EPA 310.1	01-19-1998 1200 SC
Anions	6.4	----	meq/l	-----	01-28-1998 1000 RJ
Calcium, Total	70	1	mg/l	EPA 215.1	01-22-1998 1030 MK
Cations	6.3	----	meq/l	-----	01-28-1998 1000 RJ
Chloride	5	1	mg/l	SM4500-Cl-B	01-26-1998 1400 SC
Hardness, Total	309	----	mg/l	as CaCO ₃ SM2340-B	01-28-1998 1000 RJ
Iron, Total	0.1	0.1	mg/l	EPA 236.1	01-22-1998 0830 MK
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	01-22-1998 0830 MK
Magnesium, Total	32	1	mg/l	EPA 242.1	01-22-1998 1100 MK
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	01-22-1998 0845 MK
Potassium, Total	1	1	mg/l	EPA 258.1	01-22-1998 0915 MK
Sodium, Total	3	1	mg/l	EPA 273.1	01-22-1998 0945 MK
Solids, Total Dissolved	320	10	mg/l	EPA 160.1	01-21-1998 0830 RJ
Solids, Total Suspended	<5	5	mg/l	EPA 160.2	01-21-1998 0830 RJ
Sulfate	35	10	mg/l	EPA 375.4	01-27-1998 0930
Cation/Anion Balance	-0.6	----	%		01-28-1998 1000 RJ

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout

Huntington Laboratory *EG*



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March 19, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

ID: 4TH WEST
X/C 31 ROOF DRIP

Kind of sample Water
reported to us

Rec'd 2130 hr.
Sampled 1620 hr.

Sample taken at Genwal

Field Measurements
pH 7.53
Flow 18 gpm
Conductivity 543
Temperature 6.9°C

Sample taken by Genwal

Date sampled February 11, 1998

Date received February 11, 1998

Dissolved metals filtered at lab.

Analysis report no. 59-18273

Parameter	Result	MRL	Units	Method	Analyzed Date/Time/Analyst
Acidity	14	10	mg/l as CaCO ₃	D1067-92	02-16-1998 0930 CS
Alkalinity, Bicarbonate	331	5	mg/l as HCO ₃	SM2320-B	02-16-1998 1030 SC
Alkalinity, Carbonate	<5	5	mg/l as CO ₃	SM2320-B	02-16-1998 1030 SC
Alkalinity, Total	271	5	mg/l as CaCO ₃	EPA 310.1	02-16-1998 1030 SC
Anions	6.2	----	meq/l	-----	03-12-1998 0915 RJ
Calcium, Dissolved	67	1	mg/l	EPA 215.1	03-04-1998 1245 MK
Cations	6.0	----	meq/l	-----	03-12-1998 0915 RJ
Chloride	3	1	mg/l	SM4500-Cl-B	02-17-1998 0800 SC
Hardness, Total	295	----	mg/l as CaCO ₃	SM2340-B	03-12-1998 0915 RJ
Iron, Total	<0.1	0.1	mg/l	EPA 236.1	03-04-1998 0930 MK
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	03-04-1998 0930 MK
Magnesium, Dissolved	31	1	mg/l	EPA 242.1	03-04-1998 1300 MK
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	03-04-1998 1000 MK
Manganese, Dissolved	<0.1	0.1	mg/l	EPA 243.1	03-04-1998 1000 MK
Potassium, Dissolved	1	1	mg/l	EPA 258.1	03-04-1998 1030 MK
Sodium, Dissolved	2	1	mg/l	EPA 273.1	03-04-1998 1145 MK
Solids, Total Dissolved	300	10	mg/l	EPA 160.1	02-16-1998 0830 RJ
Sulfate	33	10	mg/l	EPA 375.4	02-18-1998 1200 SC
Cation/Anion Balance	-1.6	----	%		03-12-1998 0915 RJ

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout

Huntington Laboratory



OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES

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FAX: (801) 653-2436

March 19, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

ID: MAIN WEST FAULT (JV)

Kind of sample Water
reported to us

Rec'd 2130 hr.
Sampled 1920 hr.

Sample taken at Genwal

Field Measurements

Sample taken by Genwal

pH 8.0
Flow .1 gpm
Conductivity 477
Temperature 9.4°C

Date sampled February 11, 1998

Date received February 11, 1998

Dissolved metals filtered at lab.

Analysis report no. 59-18276

Parameter	Result	MRL	Units	Method	Analyzed		
					Date/Time/Analyst		
Acidity	<10	10	mg/l as CaCO ₃	D1067-92	02-16-1998 0930	CS	
Alkalinity, Bicarbonate	283	5	mg/l as HCO ₃	SM2320-B	02-16-1998 1030	SC	
Alkalinity, Carbonate	<5	5	mg/l as CO ₃	SM2320-B	02-16-1998 1030	SC	
Alkalinity, Total	233	5	mg/l as CaCO ₃	EPA 310.1	02-16-1998 1030	SC	
Anions	5.5	----	meq/l	-----	03-12-1998 0915	RJ	
Calcium, Dissolved	51	1	mg/l	EPA 215.1	03-04-1998 1245	MK	
Cations	5.0	----	meq/l	-----	03-12-1998 0915	RJ	
Chloride	6	1	mg/l	SM4500-Cl-B	02-17-1998 0800	SC	
Hardness, Total	226	----	mg/l as CaCO ₃	SM2340-B	03-12-1998 0915	RJ	
Iron, Total	1.8	0.1	mg/l	EPA 236.1	03-04-1998 0930	MK	
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	03-04-1998 0930	MK	
Magnesium, Dissolved	24	1	mg/l	EPA 242.1	03-04-1998 1300	MK	
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	03-04-1998 1000	MK	
Manganese, Dissolved	<0.1	0.1	mg/l	EPA 243.1	03-04-1998 1000	MK	
Potassium, Dissolved	2	1	mg/l	EPA 258.1	03-04-1998 1030	MK	
Sodium, Dissolved	11	1	mg/l	EPA 273.1	03-04-1998 1145	MK	
Solids, Total Dissolved	260	10	mg/l	EPA 160.1	02-16-1998 0830	RJ	
Sulfate	34	10	mg/l	EPA 375.4	02-18-1998 1200	SC	
Cation/Anion Balance	-4.4	----	%		03-12-1998 0915	RJ	

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout
Huntington Laboratory





COMMERCIAL TESTING & ENGINEERING CO.

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February 18, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

ID: UPDES 002

Rec'd 1510 hr.
Sampled 1340 hr.

Field Measurements
pH 7.0
Conductivity 740
Temperature 13.3°C

Kind of sample Water
reported to us

Sample taken at Genwal

Sample taken by Genwal

Date sampled January 30, 1998

Date received February 2, 1998

Dissolved Iron filtered at lab

Analysis report no. 59-18253

Parameter	Result	MRL	Units	Method	Analyzed		
					Date/Time/Analyst		
Iron, Total	0.2	0.1	mg/l	EPA 236.1	02-13-1998 0745	MK	
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	02-13-1998 0745	MK	
Solids, Total Dissolved	450	10	mg/l	EPA 160.1	02-04-1998 0900	RJ	
Solids, Total Suspended	<5	5	mg/l	EPA 160.2	02-04-1998 0900	RJ	

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout

Huntington Laboratory *RO*

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FAX: (801) 653-2436

March 19, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

ID: UPDES 002

Kind of sample Water
reported to us

Rec'd 1200 hr.
Sampled 1035 hr.

Sample taken at Genwal

Field Measurements
pH 7.65
Flow 560 gpm
Conductivity 762
Temperature 11.7°C

Sample taken by Genwal

Date sampled February 24, 1998

Date received February 24, 1998

Analysis report no. 59-18290

Parameter	Result	MRL	Units	Method	Analyzed		
					Date/Time/Analyst		
Iron, Total	0.1	0.1	mg/l	EPA 236.1	03-02-1998 1100	RJ	
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	03-02-1998 1100	RJ	
Solids, Total Dissolved	460	10	mg/l	EPA 160.1	03-03-1998 0900	RJ	
Solids, Total Suspended	<4	4	mg/l	EPA 160.2	02-27-1998 0930		

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout

Huntington Laboratory

RD

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FAX: (801) 653-2436

March 26, 1998

GENWAL RESOURCES, INC.
P.O. BOX 1420
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

Kind of sample Water
reported to us

ID: UPDES 002

Sample taken at Genwal

Rec'd 1150 hr.
Sampled 1020 hr.

Sample taken by Genwal

Field Measurements
pH 7.05
Conductivity 783
Temperature 10.4°C

Date sampled March 11, 1998

Dissolved metals filtered at lab.
TSS Analyzed at Tempview Analytical.

Date received March 11, 1998

Analysis report no. 59-18339

Parameter	Result			Units	Method	Analyzed	
						Date/Time/Analyst	
Iron, Total	0.2	0.1		mg/l	EPA 236.1	03-19-1998 0800	MK
Iron, Dissolved	<0.1	0.1		mg/l	EPA 236.1	03-19-1998 0845	MK
Solids, Total Dissolved	472	10		mg/l	EPA 160.1	03-16-1998 1200	RJ
Solids, Total Suspended	5	4		mg/l	EPA 160.2	03-17-1998 1059	

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout
Huntington Laboratory

